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IMAGES IN CARDIOLOGY

Right Ventricular Tumor and Thrombus

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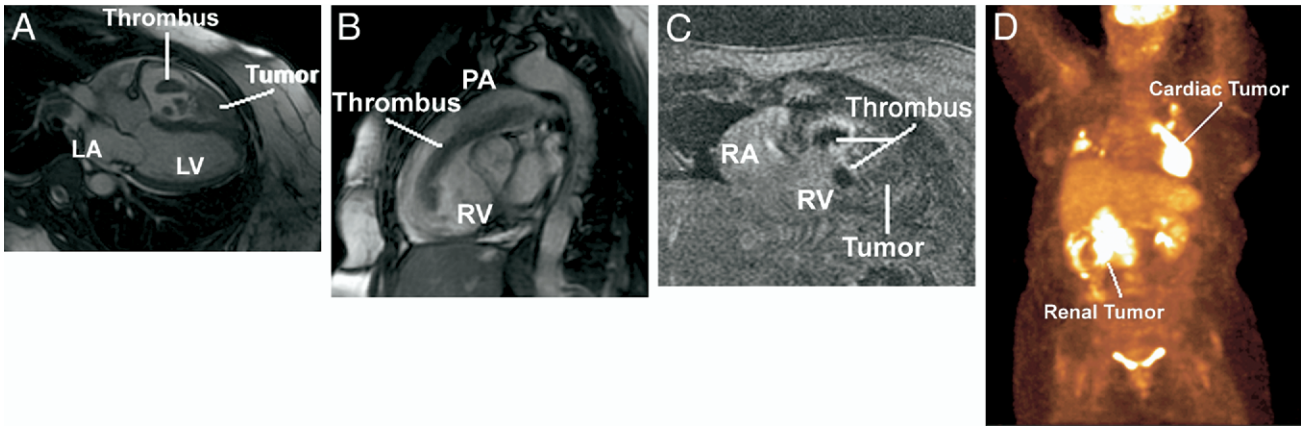

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A 51-year-old woman with newly diagnosed renal cell carcinoma was evaluated for acute onset dyspnea. Computed tomography angiogram was suspicious for pulmonary embolism originating from the right ventricle (RV). Tissue plasminogen activator was given without resolution of the mass on echocardiogram. Cardiac magnetic resonance imaging was performed to differentiate tumor from thrombus. Steady-state free precession imaging demonstrated a large mass originating from the apex of the RV (Panel A), and a long mobile 11 × 1.3-cm mass extending through the RV outflow tract into the left main pulmonary artery (PA) (Panel B). Long inversion time gadolinium-enhanced images showed suppression of the mobile mass components but not the apical mass, suggesting both mobile thrombus and apical tumor (Panel C). Positron emission tomography-computed tomography showed intense hypermetabolic activity of the apical mass, suggestive of metastatic renal cell carcinoma, and low metabolic activity of the pulmonary artery filling defect consistent with thrombus or tumor embolus (Panel D).